THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE, AND RURAL ECONOMY.

Vol. I. **February 1, 1837.** No. 14.

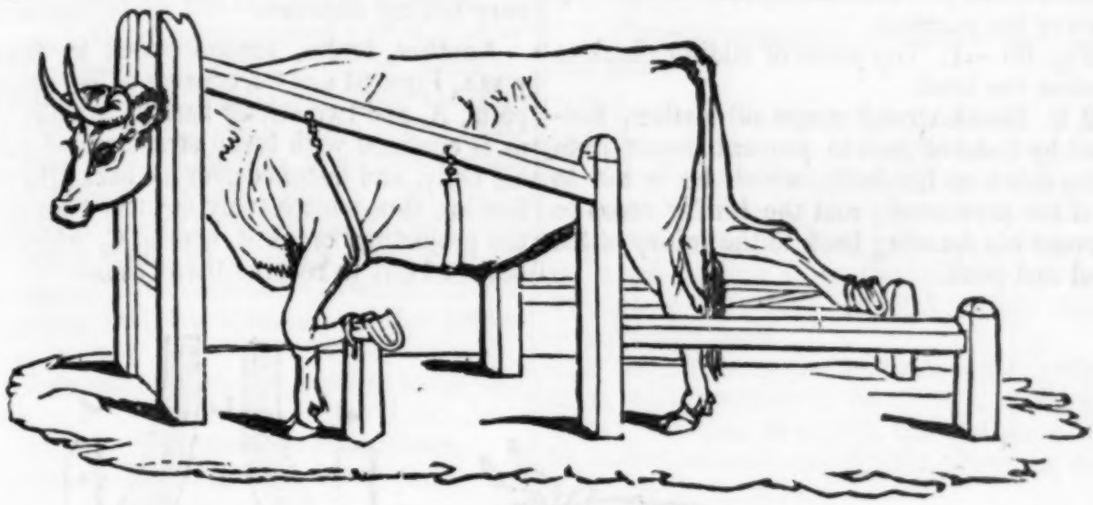


Fig. 59.

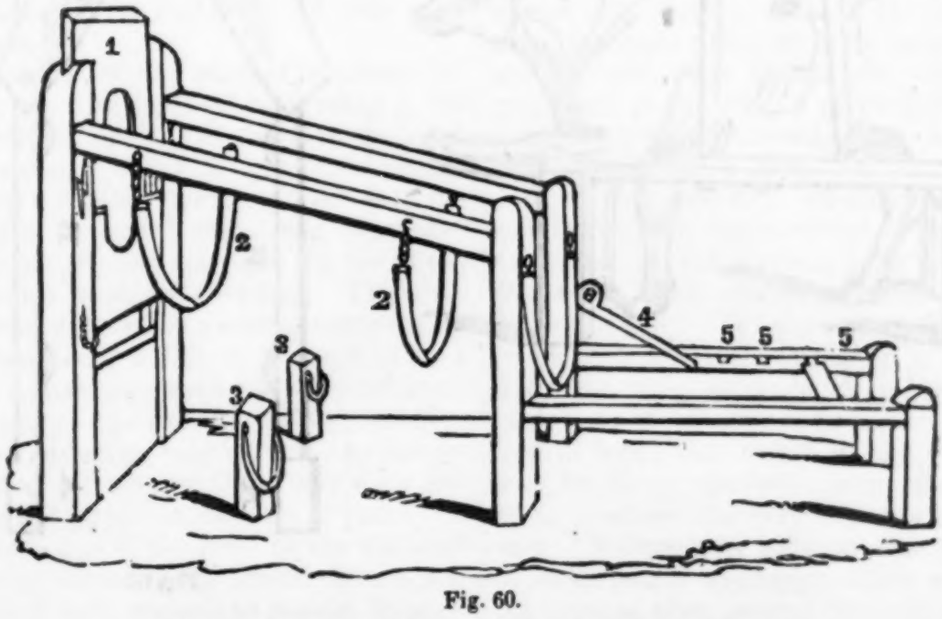


Fig. 60.

Useful Machines for Shoeing Oxen.

A serious objection to the use of oxen for road work, arises from the difficulty of shoeing them. The solidity and round form of the horse's hoof resists, without inconvenience, a force which would divide the claws of an ox asunder; great care ought therefore to be employed in the operation, and yet it is usually performed in a manner the most slovenly and imperfect. The best mode is to make the shoes very thin and broad, covering a great part of the foot, and rather turning up at the toe between the hooves; they should be then fastened on with broad flat-headed nails, covering with their heads a great part of the shoe. This, if carefully done, offers as much security as the formation of the hoof and its brittleness and thinness will allow; but few smiths, though otherwise perhaps good farriers, perform the operation well, and it is attended besides with considerable awkwardness from the unsteadiness of the animals, which seldom submit quietly. They

are consequently in general cast; in the common mode of doing which they are thrown upon their sides, or rather nearly on their backs, and one end of a forked stick being thrust into the hobbles which confine the legs, the other end is firmly fixed to the ground. The hoof is thus held up while the shoe is put on; but it is attended with frequent accident, and its obvious inconvenience may be avoided by the adoption of either of the simple machines, here figured, which are used in some places as brakes, and completely answer the purpose.

Fig. 60.—1. Top piece of sliding plank to confine the head.

2. 2. Broad strong straps of leather, fastened by links of iron to prevent the ox from lying down on his belly, which he is apt to do if not prevented; and the hinder strap to prevent his drawing back to the injury of his head and neck.

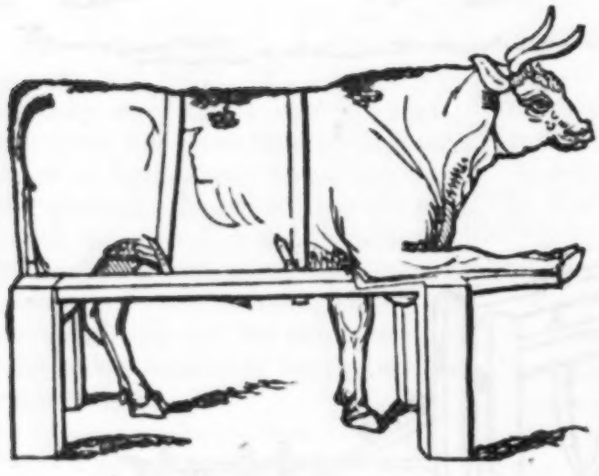
3. 3. Two stumps strongly fixed in the ground to tie the fore legs to.

4. An iron that lifts up and down to confine the roller, to which the legs are tied for the purpose of shoeing.

5. 5. 5. are holes, with others corresponding, not seen in the plate, to be shifted according to the length of the animal.

The whole—as will be seen by the foregoing sketch—is so simple, that a carpenter, with these directions, can construct it at a very trifling expense.

Another brake, recommended by Bakewell, Figs. 61 and 62, consists of four upright posts, A, and two strong bars, B, to which the ox is confined with broad straps passed under his belly, and fastened over his back. His fore feet are thus successively stretched out upon the projecting crooked beams, C, which are bevelled out to receive them, thus—



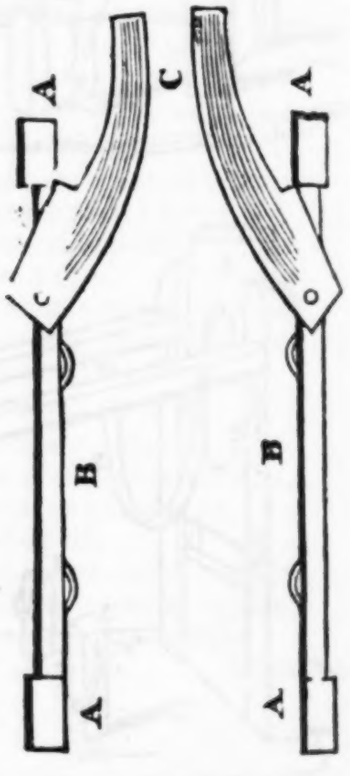


Fig. 62.

The hind legs, when shod, which is not usual, unless when the oxen are used for road work, are securely held out by a wooden lever, the end of which is hollowed out. The claws of the ox cannot, however, support a strong shoe of the usual form and weight, and the iron used in the operation is not of sufficient strength or goodness of workmanship to prevent its frequently giving way. In districts where oxen are used in draught, no farrier should be unprovided with a brake of some kind, but that is too frequently neglected; the difficulties opposed to shoeing them are therefore the more necessary to surmount, and we cannot but think that these might be materially corrected, if young steers, or calves, intended for the yoke, were, when in the yards, to have their hooves taken up and beaten with a hammer, preparatory to the more regular operation when they come into work.

In addition to these machines, a method is pursued in shoeing them, which, besides its extreme simplicity, admits of being used for any animal in case of accident, and merely consists in slinging them up in a sack, which prevents their offering any resistance. It consists of a long lever, fixed in a strong up-

right post, and having a transverse bar, to which the sack is attached by cords, after being passed under the animal's belly.—*Farmers' Series.*

For the Farmers' Cabinet.

Observer—No. II.

OBSERVATIONS ON THE HORNS OF CATTLE.

Having promised a few observations on the healthy condition and relations of the horns of cattle—including the cavities of the nose; I propose, in the present number, a brief inquiry into the diseases to which they are incident. My views are, in part, drawn from analogy, and a knowledge of the diseases of the nasal structure in man—and, in part, from actual observations on diseased animals. My object is, to excite others to the inquiry, more than to instruct them by my own knowledge of the subject. The conditions to which I shall, at present, call the attention of the reader are—

1. Inflammation of the nasal cavities and horns.
2. Putrid—corrupted—or rotten horn.
3. Hollow horn—or horn distemper.

1. INFLAMMATION OF THE MUCOUS MEMBRANE LINING THE CAVITIES OF THE NOSE AND HORNS.

Inflammation of the mucous membrane of the nose, is a very frequent occurrence in the human subject, under the familiar name of "cold," and may occur in any other animal possessing a similar structure. At first the secretion of the nasal surfaces is *checked*—they become *dry* and *hot*—and an *irritation* is felt which produces *sneezing*. This dryness is soon relieved by a *watery secretion*, in great abundance, which is replaced, after a time, by a more consistent *mucous discharge*. The intensity—the extent—and the duration of the inflammation, may vary, in any assignable degree. It may continue only for a few hours, or last for weeks, months, or years. It may affect a part of the nose, or the whole of it, and even extend to the frontal sinuses, and the horns of such animals as possess them.—It may relieve itself by an effusion of *serum*—a more labored secretion of thick adhesive *mucous*—or even matter resembling pus.—Or, in a still more aggravated form, it may produce *ulceration* of the surfaces. From similarity of structure, the lining of the throat, windpipe and air passages of the lungs, are, generally, more or less affected in the same way. Indeed, this forms the most important part of the disease.

There is a contingent occurrence, which sometimes takes place in catarrhal affections, and which ought not to escape notice. When the passage from the frontal sinus to the nose is small, a little swelling of the mucous membrane will completely shut it up. The increased secretion within the upper cavity is thus prevented from escaping, and accumulates in it. Severe pain in the forehead, with a febrile excitement of the whole system, takes place. As the inflammation subsides, the nasal passage opens spontaneously, and relief is afforded. The narrowness of the nasal passage renders this more common in man, than perhaps any of the brute animals. It may however occur in both.

2. CORRUPTED HORN—PUTRID HORN—ROTTEN HORN.

When inflammation of the cavities of the os frontis, and horns, terminates in *suppuration*, the matter will be discharged from the nose—or if the passage is obstructed, will accumulate in the cavities. If the horn should be bored, in this state, the matter will flow through it—constituting what may be called *—corrupted horn.*

If the inflammation assumes a more violent form, and extends to the bones, producing bony ulceration, or *caries*, the discharge will be darker colored, and highly offensive, constituting *putrid horn.*

When either of these conditions is accompanied with an obstruction of the nasal passage, the matter shut up in the upper cavities will become more putrid and offensive, in proportion to the length of confinement—so as to acquire an intolerable fetor, when liberated—this is *rotten horn.*

It is very doubtful whether *boring* can ever be useful in this condition of the horns,—excepting, in such cases as have the nose obstructed. Such obstruction can rarely be known to exist. Where it is either *known, or strongly indicated;* as when a discharge from the nose suddenly stops, without an abatement of other symptoms—I would venture to bore; but would advise, always, to wait for strong necessity, as the remedy, very often, *produces* the very evil it is intended to cure. It frequently happens, that a purulent or even putrid discharge, takes place from the horn, or nose, several days after boring—and this is considered evidence of corrupted, or putrid horn. But I would ask, were the horns corrupted, in those cases, at the time of boring?—I would certainly answer—No. The evidence—the only evidence,—would have been, a discharge of *corruption* immediately after boring; but that discharge did not take place till some days after,—not till time was allowed for inflammation to be produced by the violence of boring, and the too free admission of air into the cavities. It is reasonable to conclude, then, that the corruption of the horn was the *effect of*—and *produced by*—injudicious boring. Some experienced farmers and graziers are so well con-

vinced of this, that they have entirely abandoned the practice of boring, and now very rarely see corrupted horn.

Another way in which boring may produce a putrid condition of the horn, and lead to erroneous conclusions, is—that a quantity of blood may collect in the cavities of the horn, and head, after boring—which, either from the closure of the passages, or the position of the head itself, may not readily escape. This blood will first coagulate, and afterwards putrify, and dissolve, so as to be carried off with the secretions, in a putrid and offensive state, while the parts themselves are free from disease. I have seen some of the cells of the frontal bone completely full of blood, from this cause, after death.

3. Hollow horn—horn distemper.

The question very naturally presents itself, at the threshold of this inquiry—*which is hollow horn?* I answer, *it is the healthy state of the horn.* I have already shown, that the horns of cattle are always hollow.—But, say the advocates of hollow horn—the pith wastes away and leaves the horn dry, and empty. Now I am well aware, that it is rank heresy to deny the existence of a thing, which almost every body *knows* to exist—a thing which almost every body has frequently seen. But I demand, what are the proofs of the existence of hollow horn? What are the signs by which it is known to exist?—Why, say the advocates, it is proved to exist by boring—sometimes the horn is full, and moist, and bleeds freely—at other times it is quite empty, and dry, and does not bleed a drop. In the latter case the gimblet pops right through to the other side of the horn.—I object, that these appearances are deceptive. I have shown that the horn is *always hollow*—therefore it can *never be full.* During life, the blood must circulate through the horn—therefore, it can *never be dry.* The pith (as I shall show) never wastes away—therefore, the horn can *never be empty.* An explanation of the cause of error, will be found in the structure of the horn. I have shown, that the thickness of the bony core is very irregular, and as a consequence there are more, and larger vessels, in the thicker portions of bone. Hence if the gimblet enters a very thin part of the bone, it will pop right through—and, probably, without much bleeding. The horn will, of course, be *empty and dry.* On the contrary, if the instrument enters a thick portion of bone, it will, probably, encounter large vessels, and bleed freely. In that case, the horn will be *full and moist.*—This reason is sustained by facts. A few days since, my neighbor had a cow affected with the usual symptoms of hollow horn, and was accordingly bored. The horns were found *entirely empty and dry.* Three days later they were bored, nearer the head, with the same result, only the gimblet was a *little bloody.* The existence of hollow horn was fully proved, by the indubitable evidence of boring, and the animal doctored for it during a week, when she died. On a careful and minute examination, I found the horns in a perfectly natural and healthy condition—except slight inflammation from the operations of the gimblet. The cells of the os frontis contained a quantity of coagulated blood, from the wound of the horn, which had been prevented escaping by the position of the head. When the pith was removed from the shell, and sawed open, the cause of the mistake was easily discovered. On the side where it had been bored, the bone was less than one-eighth of an inch thick—while nearly on the opposite side, it was five-eighths—and the larger vessels were observed to pass on that side also.

Under the head, "Horn Distemper," in the Domestic Encyclopædia, Dr. Willick remarks that "it gradually *wastes the internal substance of the horn,* commonly called the pith, which is the spongy part of the bone, and *the cells of which are filled with oily matter.* Thus, at length, the bone *becomes hollow.*" Refering to a paper, by Dr. Tafts, in the first volume of the Memoirs of the American Academy, he says, "it appears that this spongy bone is *sometimes partially, and sometimes entirely consumed.*"

There is something wrong in this Horn Distemper. Dr. Willick, certainly did not know that the horns of cattle are *always hollow*—and that the cavity communicates with the skull and nose. He certainly never saw the interior of a recent horn, or he would not have asserted, that its cavities are *filled with oily matter.* He has evidently drawn the *inference* that it is so, from what he knew of other bones. The long bones of the thigh, for example, contain cavities, which *are filled with oily matter.* The assertion, that *the pith gradually wastes*—that it is *sometimes partially,* and *sometimes entirely, consumed,* rests upon no better foundation, and is altogether gratuitous. Such a *wasting of the pith* does not take place. I challenge those who think otherwise, to produce the horn so consumed. It would be assuming too much, to hazard this denial on my own limited observation, but I am sustained by a host of evidence.

Few cattle die, that do not labor under some degree of the reputed hollow horn, either as primary, or accompanying disease. A vast number of the hides of such cattle are annually sold to the tanners throughout our country. The shell is separated from the pith of the horns, affording an excellent school for

observation. Now let me ask—what tanner ever found a horn, from which the pith was either *partially or entirely consumed*, in the manner described? I have inquired of several, and they all say, *they never saw or heard of such an occurrence.* Until the existence of hollow horn, as a disease, shall be substantiated by better proofs, I shall continue to doubt, and to deny, its existence. Some may say, that the inflammation of the frontal sinuses, which I have described, is the disease termed hollow horn. It cannot be so—because it is very mild, or if severe but seldom occurs—unless brought on by boring *after the animal becomes sick*—and, even then, is not accompanied by the constitutional symptoms of hollow horn.

What are the symptoms usually attributed to hollow horn? The authors already quoted, enumerate "dullness in the countenance—a sluggish motion—want of appetite—a desire to lie down—and, if attended with an inflammation of the brain, a giddiness, and frequent tossing of the head—stiffness, as in rheumatism, affects the limbs—the milk often fails in cows—the udder is hard—and there is, in most cases, a sudden wasting of the flesh." This is, perhaps, a pretty good enumeration of symptoms, supposed to be caused by the horn distemper. But, I would ask—what would a person infer from these symptoms, who had never heard of that disease? Would he bore a hole in the horns to look for the cause of them there? I think not. He would rather look for some inflammatory disease of the internal organs, producing a febrile state of the system. The animal, to which I have alluded, presented most, or all, of the above symptoms. Tossing the head was a prominent sign, yet there was no inflammation of the brain, or spinal marrow. The real cause of death was, *intense inflammation of the liver, lungs and many-plus*, or third stomach. Either of these organs, presented lessons, sufficient to account for the death of the animal. The symptoms would lead me to look for what the dissection brought to view—an inflammatory state of the viscera—and renders it worth while, to extend observations, so as to ascertain, whether it may not always be the real cause of the symptoms.

I hope that others will pursue the inquiry, and make known the results.

The only remedy proposed by Drs. WILLICK and TAFTS, is, to bore the horns "two or three inches above the head"—and, if found hollow and dry, "it will be advisable to bore lower, as *near to the head as the hollowness may probably extend.*" My previous remarks will necessarily overturn the *hypothesis*, on which this recommendation rests—and with it the whole *boring system.* The opening, they say, should be carefully kept open, as it is liable to be filled up by a thin fluid, which gradually oozes out, and obstructs the passages. Now what does this fluid ooze out of?—the injured edges of the periosteum? Why does this fluid ooze out of the periosteum?—because it has been injured. And why does it obstruct the passage?—because nature is making an effort to repair the injury, and to close up the cavity of the horn, which has been rudely, and uselessly, torn open and exposed.

The practical conclusions to which I more especially wish to call the attention of my readers are,—

That *inflamed horn*, arising from colds, and other causes, may terminate in corrupted, or putrid horn. But that it is much more frequently produced by boring.

That boring is seldom required, except, where the nasal passage is obstructed—and can hardly be justifiable in any other case.

The *hollow horn*, (or a disease attended with wasting of the bony pith of the horn,) has no existence in nature.

That when the reputed signs of hollow horn occurs, we ought to expect an inflammatory state of some of the internal organs—and direct our remedies accordingly.

New Garden, 1st mo. 14th, 1837.

The Advantages of Good Tillage.

BY AGRICOLA.

There are certain fundamental principles of good tillage, with which every part of rural practice is more or less connected. They are the same in all climates, and in all situations, and these I consider to be as follows:

First, That the soil should be laid dry, or free of all superfluous moisture.

Secondly, That it should be kept clean, or free of all noxious weeds.

Thirdly, That it should be kept rich—that is to say, all the manure that can be made or collected, should be so applied as to keep the soil in a state capable of producing good crops.

Without laying land dry, neither the advantages of good ploughing, nor the benefits arising from manure can be fully obtained; if either of the other principles are neglected, similar defects will necessarily ensue; but when they are well acted upon, when the land is kept dry, clean, and in good heart, and a proper system of rotation of crops is pursued, the husbandman may expect a suitable reward for his labor. In a system of good tillage, every part of a farm should be in a cultivated or productive state. All swamps and marshes should be cleaned up and drained, also all other wet and low places, and converted either into tillage or grass. Without draining such land, the greatest quantity of

the best manure will prove ineffectual; the stagnant waters will corrupt the natural nourishment, so essentially necessary to produce swee' herbage; but when the cause is removed, the effects will cease. Those luxuriant, noxious weeds, or coarse grass, being deprived of their nourishment by draining, of course die, and sweet wholesome herbage naturally succeeds without manure. An important principle of practical husbandry, is cleanly farming. *A good farmer must suffer nothing to grow but his crop.* He must therefore use ceaseless endeavors to exterminate weeds and pests.

However small may be the attention to this salutary maxim, it is the foundation of all profitable operations in husbandry—the test of character in the agriculturist—and should be the pride and boast of all respectable husbandmen.

One being asked—"what was the best manure?" replied—"animal sweat"—meaning good tillage, industry, and intelligent and repeated culture. All these are hostile to weeds and pests; and certain modes of destroying them.

In the cultivation of the earth, such a rotation of crops should be adopted as is best calculated to enrich the soil with abundant manure, to preserve it best from weeds, to prevent it from washing, and keep it in good heart. A good rotation of crops has been found, in all well cultivated countries, to improve the soil, instead of impoverishing it.* In every such rotation red clover is an essential article. The rapid improvements in agriculture, which have taken place in our country, particularly in Pennsylvania, for the last fifty years, may, in part, be justly ascribed to red clover, aided by the almost magical fertilizing power of plaster of paris and lime, by which more wealth has been introduced than would have resulted from the discovery of a gold mine. But ours is not the only country which has been benefited by this system. "In England, besides the systematic attention bestowed on manures, the soul and life of agriculture, they have derived equal advantages from a steady rotation of crops, the system of trench ploughing, &c. To this course—and more frequent and deeper ploughings, also the fortunate introduction of red clover from Flanders about one hundred years ago, England owes its pre-eminent standing as an agricultural nation."

All spots within the enclosure of a farm which are too barren or steep for the cultivation of any kind of grain crop, should be laid down into profitable grass land so soon as that can be properly accomplished. A skilful and intelligent farmer, in pursuing a system of good tillage, should suffer no part of his farm to lie waste, but should make it produce something towards the support of animal life, and thus attain the character which every farmer should aspire to, that of bringing the entire surface of his farm into the best considered use by prudent and appropriate cultivation.

But our misfortune is, we have too much land—the consequences, generally speaking, are wretched husbandry and half crops; many of our farmers push a good soil till it is impoverished, and cultivate in an imperfect manner extensive tracts, a small proportion of which, if properly managed, would yield them more and better produce.

It is high time that we should cease to employ labor in killing land, and that we should turn our attention towards its improvement, by cultivating less at a time. By cultivating less land we shall be enabled to do more justice to it, and to render our labor more effectual, and consequently more profitable. We shall till it better, manure it better, keep it in better heart, and what is lastly not to be disregarded, make more abundant crops.—When a smaller quantity of land is cultivated at a time, the farmer will be enabled to apply to it, what should be applied to all cultivated soils, faithful tillage, and faithful manuring. All the operations of agriculture may be comprehended in these two simple and efficacious principles.

These principles, since they have been pursued, have produced a new era in the cultivation of the soil, which may be called the era of systematic agriculture. Man, taking the earth in its exhausted state, or from nature's hand, bare of manure, has so managed and disposed it artificially, that it has yielded him first a subsistence, and then an overplus to grow wealthy upon.

How far art may go in this species of improvement, is yet unknown, as the ultimatum of fertility has never yet been reached. As far as experiments have been made, we find the earth liberally affording its produce, in proportion as faithful tillage and faithful manuring have been bestowed upon it; and as the ingenuity and invention of man may increase to an unknown and inconceivable degree, so may the improvements and arrangements of husbandry keep pace therewith, until the most fruitful spot that now exists, may produce a tenfold quantity, and the land which now supports an hundred men, give equal enjoyment to a thousand. Recollect, for instance, what agriculture has done for some parts of our country within the last fifty years. Lands which were then in a state of sterility, and inhabited by a thin population, are now, by the well applied skill and industry of man, in a high state of fertility and im-

* See Nos. 4 and 5 of the Farmers' Cabinet.

provement, and affording subsistence, wealth and happiness to a numerous and thick settled population.

Thoughts proper for a Farmer,

By one who has made Farming his employment for a long time.

Remember never to purchase an article of dress for yourself or family that is not then specially needed. If your imports are more than your exports, and this continue yearly, or just as sure as you live you must become poor, and wear a poor man's hat. Never let any distilled liquors be used in your family or by your laborers in health. Never place a vegetable in any part of your farm not suited for it—much is lost by not attending to this. Never fail to procure all the manure you can reasonably. Keep swine, and thereby you will procure the best. Ever bear in mind that he who farms it without attending to manuring his farm is about an uphill concern—so if he keeps a number of half starved animals about him, he ought to consider how he would feel kept starved, and remember that a merciful man is merciful to his beast. Inquire what your farm is adapted for, whether for raising stock or grain—if the latter, use your team, plough and cultivator much.—Never keep a little lilliputian breed of animals, but do all you can to improve your stock. Keep the most of that kind which gives you the most profit with the least labor and expense—in this and every thing use your pencil, or pen and ink. Do not go on headlong. Never follow in the course of a poor farmer, even if it be your father. Never for a moment harbor the idea that you know enough about your business—inquire—*take an agricultural paper*—read—examine, and reflect.

Never buy so much as to become so far embarrassed as to be obliged to sell your property below the market price, which as a general rule you have no moral right to.

And your poor neighbors, as is your duty, never forget them in a scarce season, or the widow and fatherless in severe weather—you will never in the end be the poorer for it, to say nothing of the pleasure you enjoy in alms giving. Remember that you cannot be too truthable and honest to obtain property, even in this life, were there no hereafter. A *rogue* may, like a hawk or a fox, once in a while get a good prize, but like them, will generally die poor. Call to mind every spring that a penny's worth of sauce will save a shilling's worth of meat, and that change in your food is agreeable to you and so it is to your animals, therefore mix plenty of roots for them. A place for all your tools, when not in use put them in their place under cover. Be at home as much as any way consistent with your other avocations. See that your fences are always in repair—that your barns and stables are warm, double boarded. The less air you admit to your hay the better it will save.—Your cows will do better kept warm in winter, and all agree that all creatures that labor at that season should be preserved from the cold. I am aware that these are familiar hints, and that most of them have been often urged, but we farmers need to be often reminded of what will redound to our interest. At the polls we should make ourselves known as the bone and sinew of the Nation with mechanics.—*Dr. Holmes.*

Management of Manure.

The manure heap is the farmer's gold mine, and on this he must place his chief reliance. A difference of opinion, as well as diversity of practice, prevails relative to the state or condition of the manure previous to its application to the soil, that is, whether it is most useful to apply it in its raw state, without subjecting it to the process of fermentation, or whether it will produce a greater effect by previous decomposition—by being thoroughly rotted. In some parts of our state, the manure made in winter is considered as unfit for the soil, till the subsequent autumn, and among us it is a common practice to deposit the manure in large heaps on the field where it is to be used, with the intention that it shall go through a partial fermentation. I have frequently adopted this practice, in imitation of those whom I consider among our most judicious farmers. But experience, observation, reflection, convince me, that every degree of fermentation in manure designed for ploughed land, is absolute waste. True, the decomposition must take place before it can be taken up as food for the plants, but then this process may be carried on in the soil, while the seeds are vegetating and putting forth their roots and blades, with equal advantages, and by their gradual decay, fresh food will be furnished to the plants, as they advance in their growth, and when this takes place beneath the ground, there is a great saving of the strength and nutritious power of the manure. Whoever has stood to the leeward of a dung heap, when in a state of fermentation, and witnessed the evaporation, and perceived the strong effluvia escaping from the heap, must have been impressed with the fact that no small portion of its strength and virtue is passing off into the air. That which thus escapes, is the most subtle and nutritive part, the most enriching to the soil—it is that which imparts the most life, activity and vigor to vegetation. Now this ammonia may be wholly retained within

the soil. By ploughing in the manure before the fermentation takes place, there will be comparatively but a trifling evaporation. The fermentation and putrefaction will ensue, but the small and subtle particles which escape from the dung heap, are now retained in the soil and become incorporated with it. Economy requires that the plough should be put in motion as soon as practicable, after the manure is carried into the field. Even the moisture in the manure, when it is carried out, is in itself some of the richest part of the load, and the longer it is suffered to lie in the sun, before it is ploughed in, the greater the diminution of its strength and value.—*Lathrop's Address.*

A Picture of Vegetation.

To form a comprehension of the work of nature, we must observe it in those countries were the ground, abandoned to its natural productions, has not yet been turned up by the hand of man. Wherever this has established its power, it has subjected to its empire all that might contribute to his well-being, or embellish his abode; the animals have become slaves; rich harvests and vast meadows have replaced the wilderness of nature; ancient forests have fallen under the axe, and the ground, despoiled of its original productions, no longer presents to the eye of the observer uncultivated nature, but a vast garden, created by human industry. The tree of the mountains has descended into the plains, and the exotic plant, more useful or more agreeable, has chased from its native soil the plant which is noxious, or of no utility to man. It is, therefore, only at a distance from great societies, in foreign countries, in lands untouched by man, that vegetation can be studied in its natural state, understood in its modification, developement and progress.

There still, however, exist countries in Europe, which the power of man has not entirely subjected; but it is only among the proud rocks, and the summits of the Alps, that they are to be looked for. There mountains piled on mountains, rising above the clouds, form so many gardens, each furnished with a vegetation of its own, the character of which changes at each degree of elevation. There, in proportion as we rise, we find succeeding each other the temperatures of various climates, from that of the tropics to that of the poles, as well as several of the vegetables peculiar to each of these climates.

At the foot of these mountains, and in the lower valleys, vegetate the plants of the plains, and a part of those of the southern countries of Europe. Forests of oak occupy the first platform; they rise, but not without losing a proportional degree of their strength and beauty, to a height of about eight hundred toises,* the extreme limit of their habitation. The beech shows itself equally, but the oak has ceased to grow more than a hundred fathoms beneath the highest limit of this plant. In the zone which succeeds, these trees, more exposed to the impetuosity of the winds would present too much scope for their action, in the large cyme [literally a sprout] and broad leaves which they possess. The pine, the yew, the fir, furnished with a finely divided foliage, raise securely towards the regions of perpetual snow their robust and branchless trunks. The action of the winds no longer meeting the same resistance, is divided, and loses its force among their short and slender leaves. These trees do not, however, attain a greater elevation than a thousand toises; above this, woods of *cratægus* and birch, and tufts of hazel and willow, among which the rhododendrons [dwarf rose-bay] flourish,—brave the cold and the tempests, to the height of 1,200 toises. Beyond this appear, but with a much lower stature, a multitude of beautiful and elegant shrubs, creeping willows, &c.

Farther on, to the region of snow, scarcely any more woody vegetables are found, if we except some dwarf birches, some stunted willows, scarcely a few inches long. A short, beautiful, and tufted sward springs every summer from beneath the snowy mountains, and is covered with a multitude of pretty little flowers with rosaceous petals, naked peduncles, and vivacious roots; this is the peculiar place of the numerous saxifrages, elegant primulæ, gentians, *ranunculi*, and a profusion of other diminutive plants. The frightful nakedness of the poles reigns upon the summits of these mountains, loaded with perpetual ice; if there still remain some traces of vegetation, they only exist in a few lichens, which here, as elsewhere, endeavor, but in vain, to lay the foundations of vegetation.

Thus the traveler, having arrived at these mountains, at the region of ice, has experienced, in the course of a few hours, the different degrees of temperature which reign in each climate from the tropics to the poles; he may have observed a portion of the plants which grow from about the 45th degree of latitude to the 70th, that is to say, along a meridian of 800 leagues, a phenomenon which exists in all high mountains, of both the old and the new continent, with some modifications peculiar to the localities.

The observations made by M. Humboldt, in the equinoctial regions, and on the highest mountains of our globe, furnish us with a proof of this. The same order occurs there in the gradation of species, but only above

---

* A toise is about six and a third English feet.

the height of 500 toises. The species, to be sure, are not the same as in Europe, but they have the same character of aspect, size, and consistence. The burning zone which occupies the lower space from the level of the sea to this height, enjoying a temperature unknown to Europe, is inhabited by vegetables peculiar to this climate; this is the country of palms, bananas, amomums, tree ferns, &c. It is only, therefore, at the height of 500 toises, that, on the mountains of the torrid zone, the climate commences which corresponds to the base of the Alps, proceeding from the level of the sea, and it can only be here that the zone of plants corresponding to those of Europe can commence.

Such is the spectacle of vegetation, always varied, and incessantly renewed, that presents itself to the view of man; a spectacle rich in its composition, admirable in its contrasts, sublime in its harmony, and which, to produce it, has only required of nature to submit the forms to the influence of different temperatures—of temperatures, I repeat, and not of climates. It is a very essential effect to remark, that the production of vegetable species is much more dependent on the action of heat and cold, of dryness or humidity, than on the difference of climates; we may meet, and in fact do pretty frequently meet, the same species in very different latitudes, in which, however, from local circumstances, the same degree of temperature prevails. It is thus that we find on the high mountains of the south of Europe, plants of Sweden, Norway, and even those of Lapland and Spitzbergen. TOURNEFORT made the same observation in Asia Minor, on Mount Ararat. At the foot of the mountain are found the plants of Armenia; in proportion as we rise, those of Italy and the south of France, then those of Sweden, and towards the summit the plants of Lapland. It is by means equally simple, that nature has removed from the surface of the globe that monotonous uniformity which the plants would produce, were they every where the same; but, subjected to the influence of the atmosphere, what varied forms do they present to our admiration.

A temperature constantly humid and warm, such as that of the equinoctial countries, maintained by the rays of a burning sun, and the emanations of a soil watered by the vicinity of large rivers and lakes, gives to vegetation that vigor which astonishes in those magnificent vegetables peculiar to those climates. Another form of plants is seen in those countries which are exposed to the alternations of cold and warm seasons; it is more equal upon the sea-coasts, where the temperature is less variable; but the plants assume a different aspect on high mountains, where dry and cold winds frequently blow; they vary little in the fresh waters, or in those of the sea; being there placed in a medium less subject to the inclemencies of the atmosphere. The intensity and duration of the light, the long and humid nights, occasion as many different modifications in the vegetable forms. Nature has also fixed the station of plants, that the dwarf and creeping willows never descend from the summit of their mountains to associate with the osier willows, on the banks of our brooks; and the primulæ which decorate the green swards of the Alps, cannot mingle with those of our meadows.

Weevils.

Accident has discovered to a French farmer a simple mode of destroying weevils in corn warehouses. Happening to lay in the corner of a granary, in which there was a large quantity of grain, some sheepskins with the fleece on, he was not a little surprised to find them, a few days after, covered with dead weevils. He repeated the experiment several times, and always with the same success. At last he ordered his grain to be stirred up, and not a single weevil remained in it. It appears, therefore, although the cause has not yet been ascertained, that greasy wool, when in the neighborhood of weevils, attracts and destroys them.

We give the above as we find it, in a scientific journal—we know not what credit to attach to it, but we think favorably of it, and certainly a trial will injure no one.

Brief Hints for Winter.

During winter, cattle are very apt to suffer from a want of water, as running streams are generally frozen, and they are mostly fed on dry fodder. Cattle will drink several times a day, if the water is good and of easy access; proper provision should therefore be made for them.

Farmers will save a great deal of hay, especially in wet and muddy weather, if instead of spreading it upon the ground to be trodden under foot, suitable racks are provided, so that none of it may be wasted.

As milk is very valuable in winter, great care should be taken that cows are now milked very clean. But as the operation is apt to be tedious at this season in consequence of the slowness with which it is given down, it is best, after having obtained what milk can be done easily at one milking, to pass round all the cows at the conclusion, and give them a second milking, being careful to drain them to the very last drop.

Cows should not be dried up of their milk too soon before their time of having a calf—

this care is especially requisite in case of young cows which are milked for the first season; for when these are dried up too soon, it is apt to cause a permanent shortening of their time of giving milk for each successive season. If they are the first season dried early in the fall, it is difficult to obtain much milk after that period in any year afterwards.

With careful milking, particularly the first year, and good keeping, cows may be made to give milk for almost any period required, even but a very short time before having a calf.

Farmers have differed with regard to the proper time of drying up cows; but this rule we believe to be nearly correct—if they are well fed and in good condition, the milking may be continued until nearly the time of calving; but if they are *not* in good condition they should be dried a month or two before that period, in order to allow them to recover their health and strength.

Hogs and Hogpens.

A good sty is of the utmost importance in fattening hogs. Nor is it less important for keeping them in winter; as the more comfortably they are kept the less nourishment they require. The sty should be proportioned in size to the number of swine it is to contain. One of sixteen feet by twelve is probably sufficient for eight fattening swine. It should be divided into two apartments; that in the rear, which should be about six feet wide, should be close and warm for the hogs to lie in. Here they should have a constant supply of dry litter, when the weather is cool; for it is an essential point to keep them comfortable. The front part of the sty which would then be about ten feet wide, should have the floor descending on one side for the filth to run off; and on this side should be an opening. The trough should be on the upper side, covered with one or more lids; and upright pieces should be set before it, at such distances apart as that one hog only could put his head between any two of them, in order that, while feeding, the weaker animals should be protected against the stronger. The whole should be covered with a roof; for it is essential that they be protected from storms, while they are in the outer or feeding apartment.—According to the foregoing, if sixteen hogs are to be kept or fattened in the sty, it should be thirty-two feet long and twelve wide, and in that case there might be a sleeping apartment at each end. These apartments should again be subdivided, that, for the quiet of the animals, particularly in fattening, too many may not be forced to lie together. It would probably be best also to divide the feeding apartment; for too many hogs kept together are not apt to enjoy that peace and quiet which is necessary to their fattening well.—Posts should also be set up in the sty for the hogs to rub themselves. If thirty-two hogs are to be kept or fattened, then, perhaps the better way is, to have two sties, of the dimensions last described, placed together, with a roof over the whole, and a passage between them for the purpose of carrying food to the trough. If a part of the roof extended considerably beyond the sty, it would afford a convenient cover for forming a heap of compost from the dung of the swine.

How Grass Seeds should be Sown.

BY JOHN HARE POWELL.

Grass seeds are often defective in quality; are seldom sown in sufficient quantities, and they are very rarely put in with proper care. Accurate husbandry is more essential for the proper laying down and management of grass lands, than any other branch of the agricultural art. Fine tilth, careful sowing, ample supplies of manure, are especially requisite in a country exposed to extreme cold and excessive drought. Autumnal sowing has generally been found most successful; but the practice of sowing clover upon wheat and rye crops, must necessarily be continued in the spring. A light harrow, with wooden tines, should, in all seasons, be used for covering grass seeds. In the spring, the wheat and rye crops are benefited by its application: their roots, which are often diseased from being thrown out by the frost of the winter, are brought into contact with fresh earth. The grass seeds are covered by the aid of the harrow: a very light roller, after, by slightly compressing the earth, secures to the tender germs nutrition, at the moment when it is most required, and fills up the interstices immediately about the roots of the plants, upon the products of which the farmer's hopes principally depend.

Importance of Manure.

Every individual who can make pretensions to a knowledge of farming, is aware of the importance of manures.

These, in the opinion of the writer, should be used for summer crops exclusively, except plaster—and the farmer should manure as much as he can thoroughly, at least ten wagon loads to the acre, and when properly done, it will answer for ten years—on some soils longer. Long manure is most valuable, when ploughed in. Ridiculous prejudices exist among some farmers, against the use of plaster. They erroneously suppose it will injure their land, in time, by exhausting it. In the river counties it has been freely used for half

a century, and lands which before its introduction were worth $15 an acre, are now selling for sixty to one hundred dollars. It is of great value as a manure, and can be advantageously applied to meadows, (if not wet,) pasture land, to corn and potatoes, and even to wheat, especially in dry seasons.

Late sown wheat should always be plastered in the spring, and some farmers think in the fall.

Wood ashes are also an excellent manure for most kinds of land, especially when mixed with plaster—principally after a top dressing, for corn and potatoes, and even for peas.

But the easiest and cheapest way to manure good arable lands, is by clover and plaster.—In fact, the farmer should raise no other grass, for pasture, and upland stocked down for meadow should consist of this grass, mixed with wheat, which is termed timothy grass—and every farmer should raise his own grass seed.

It should be thickly sown in the herl, and the whole of the land sown with wheat should be seeded with clover. This system of husbandry not only greatly enriches the land, but keeps out weeds and other grasses less valuable and more difficult to subdue. In a word, it leaves land at all times in a proper state for the reception of a crop of grain.

The large or mammoth clover is the most valuable species for this purpose, and if thickly sown will make good hay.

Some farmers raise two or more wheat crops in succession on the same land. This is a bad practice. The second crop is always uncertain, and it generally leaves the land covered with chess and cockle.

The good farmer will always endeavor to have a regular rotation of crops—first corn, peas, or beans; then wheat, and then grass,—and never two wheat crops in succession—or oats, or rye, after wheat; or in other words, his green crop will precede and follow his white one.

The green crops in succession are also injurious to land, as corn after corn.

Corn should always be raised on sward land, and it should be highly manured. Peas will also grow well on clover sward, ploughed in the fall, and also beans and potatoes.

I think I before remarked that corn should never be topped—it injures the grain, and the produce is less by eight or ten bushels to the acre.

But, sir, I find I am scribling at a great rate, and must close my remarks for the present.

A Farmer.

P. S. I am a great enemy to oats, and a greater to flax, when sown on wheat land; they are both great exhausters; and wheat should not follow either. Some of our farmers cultivate flax for the seed. It will prove to them the dearest crop they ever raised. The good farmer will not raise to sell, oats or flax. They may afford a quick return, but, on wheat land, will in the end prove to him a dear crop. A heavy crop of corn is far less injurious than either, and the wheat crop after will be better, provided the land was well manured in the spring.

Hints to Farmers.

There are two particular items, to which I would call the attention of our farmers, viz: To do every thing at a proper time and in a proper manner. Never to put off any thing till to-morrow that may be done to-day, is an excellent maxim, and should be observed by every farmer: while he holds in everlasting contempt that saying of the Spaniards, do nothing to-day that can be put off till to-morrow. Very much of a farmer's success will depend on a due regard to the observing of time. If his land is in good order to sow his seed, he should never wait for the morrow that the moon may change. I heard a respectable farmer "*down east*" ask another if he paid attention to the moon's phases, when he sowed his peas; he replied that he did not even let the moon know when he sowed them! You may smile at the old gentleman's remark, and I may say to such as do regard the moon when they sow their seed, that I am astonished at their folly! But to return. A man can do much more work in season by a little regard to order. Generally speaking, every part of a farmer's work should be as distinctly separated as the ends of his fingers, though this rule will not hold good in every case.—A farmer was asked how he got along so well with his work? He replied that he did but one thing at a time. Solomon said, (and surely he ought to know,) to every thing there is a season, and a time to every purpose under heaven, a time to plant and a time to pluck. But perhaps enough of that. Then let every thing be done in a proper manner. It would be well for every farmer to remember what I many times heard an excellent farmer say, "if a thing is worth doing at all, it is worth doing well." This applies to every person, whether farmer or mechanic.—But to the farmer more especially. If his land is worth ploughing at all, it is worth doing well. It is too often that the farmer reasons thus: "If I expend ever so much labor and money upon this piece of land, it will yield but little; therefore I will not take much pains with it." He might as well say of the best piece of land he has,—if I sow or plant this, and the corn or wheat should do well, it might be destroyed by mildew or some other means; therefore I will let it lie. This is in nothing more necessary than in making fences or building

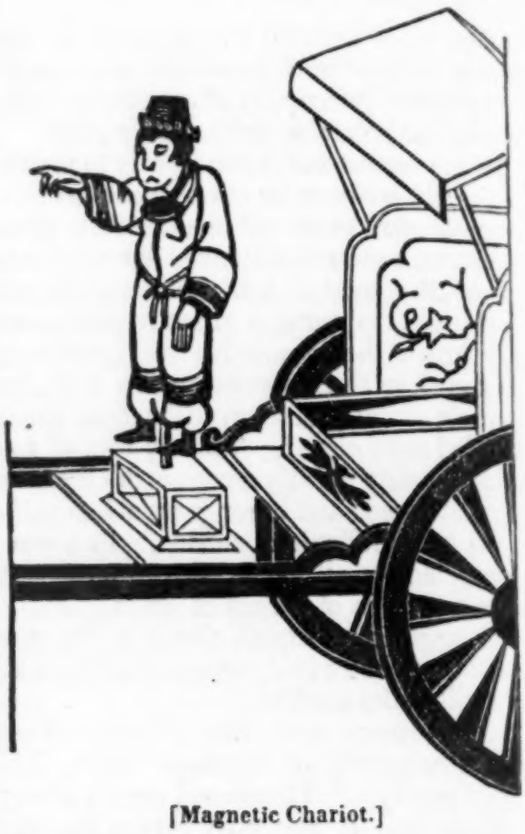
houses. For instance, notice thefastening of gates or driving stakes. One stitch in time or manner will save nine. By doing one thing well another thing may be preserved, and much property saved. But one more hint; after a farmer has committed his seed to the earth, it is his duty to pray to the Giver of every good and perfect gift, that he may have an abundant harvest. Have the prayers of every man been answered to the restraining or giving rain to water the earth! Who is it that gives us fruitful seasons, filling our hearts with gladness!—*Poughkeepsie Telegraph.*

Invention of the Mariners' Compass.

The invention of this precious instrument has hitherto been awarded to Favio Gioia, a Neapolitan, in 1302, or 1303. But this statement has rested on no satisfactory evidence; and, when it was discovered that the Chinese and Arabian authors had spoken of the magnet's polarity before the fourteenth century, it began to be suspected that the Neapolitan was merely the introducer of the compass into Europe. To settle the question, in January, 1834, Baron Humboldt wrote to M. Klaproth to ascertain the epochs,—1st.—When the Chinese discovered the polarity of the magnet; and 2d. When they began to apply it to the purposes of navigation. M. Klaproth has replied in a work, published in Paris towards the close of the year, in which the most remarkable proof of the Chinese claims to this invention, is in the history of the magnetic chariots, whose origin is lost in the obscurity of the mythological ages. The accompanying representation of one of these chariots is taken from the 33d volume of *Japanese Encyclopædia.*

The figure in front of the chariot was made of some light material; it was fixed upon a pivot, and its finger invariably pointed to the south, which, as we have already said, was the *kibleh*, or sacred point of the Chinese, to which they always turn when performing their devotions. It is intimated, rather obscurely, that these magnetic chariots were first invented for a religious purpose, namely, to enable the devout to discover their *kibleh* when the sun and stars were obscured by clouds—a purpose to which the compass is frequently applied in the present day by Mohammedan nations; but there are very full descriptions of the use made of these chariots in directing the march of armies, and guiding ambassadors. M. Klaproth has collected, from Chinese authorities, many curious anecdotes of the use made of these chariots; under the Tsin dynasty they formed a part of every royal procession. In the *Tsin-tchi*, or history of that dynasty, we find—"The wooden figure placed on the magnetic car resembled a genii wearing a dress made of feathers; whatever was the position of the car, the hand of the genii always pointed to the south. When the emperor went in state, one of these cars headed the procession, and served to indicate the cardinal points."

Fig. 63.



[Magnetic Chariot.]

In the history of the second Tchoa dynasty, which lasted from A. D. 319 to A. D. 351, we read,—"The Chang-Fang (president of the board of works) ordered Kiai Fei, who was distinguished by his great skill in constructing every kind of instrument, to build a number of magnetic chariots, which were sent as presents to the principal grandees of the empire." There are several accounts of the manner in which the magnetic figures were constructed; as our readers have probably anticipated, a magnetized bar passed through the arm of the figure; and the only variety of ingenuity displayed by the architects was in balancing the figure upon its pivot. The antiquity of these magnetic chariots is established incontrovertibly; the step from them to the compass is so very easy, that we may safely assert that the one must have led immediately to the other.—*Arcana of Science.*

Mr. Westbrook, of Muskingum county, Ohio, has found that the Chinese Mulberry grows with the greatest luxuriance in that soil.

Wintering Sheep.

In few kinds of business carried on by the farmer, is care more necessary, or skill and attention better rewarded, than in the raising and keeping of sheep. The finer wooled varieties of this animal—those from which the greatest profit is derived—are precisely the ones which suffer the most from neglect; and, by the inattention of the owner, often subject him to serious losses, which might by proper precautions, be entirely avoided.

Sheep suffer the most from maltreatment in the early part of winter; any injury arising from neglect then, being, from the very constitution of the animal, very difficult to remedy afterwards. There is a point in the descending scale, to which, if a sheep is once allowed to fall, it usually renders all efforts to raise it unavailing.

One great cause of the losses sustained in keeping sheep through our winters, is the allowing them to "shirk" for themselves too long in the fall of the year. Scattered over the fields long after the frosts have destroyed every thing that is green, and perhaps after the earth is covered with snow, they gather a precarious subsistence, and are rapidly losing the flesh and the strength which, with proper treatment, would enable them to combat the rigors of winter, and what is termed the faintness of spring, successfully. Better to collect sheep into their yards as early as the first of December, and commence their regular feeding, than to wait until January before it is done, under the idea that by so doing, fodder is saved. There may be indeed a partial saving of fodder, but far too frequently such saving of fodder is the death of the sheep.

Another thing that occasions great injury to our flocks, is the keeping too many together. Observation must have convinced every farmer that a small flock of sheep, will, with the same feeding, do much better than large ones; that from forty to sixty is as many as can be advantageously kept together; yet it is nothing uncommon for men who call themselves good farmers, to keep from one hundred and fifty to three hundred in a flock.

Another great defect in the common treatment of sheep, arises from there not being proper attention paid to the respective health and strength of the animals, when flocks are divided into sections. These things should be looked to with great care, as to put a few weak and sickly sheep with a flock of strong hearty ones, is not only to ensure the loss of the former, but frequently to endanger the safety of the latter by the spread of disease. In such cases the weak ones, which require the best of the food given to the flock, are obliged to be content with the refuse of the whole, or such as has been rejected or trampled on by the strong; and the result is as might be expected from such an unskilful mode of proceeding.

Every man who keeps sheep should have one department of his flock devoted to his weak or sickly sheep, and no sooner does he discover one coming under either of these classes, than it should be immediately taken and placed where it can receive more attention and better food than is required by those that remain strong. Sheep, when thus put into the hospital, as this division may be termed, should be fed with fine hay; roots cut fine and salted; oats in the sheaf, or an occasional handful of dry corn; and if every few days a quantity of pine or hemlock tops be given them, the effect will be good, furnishing a green, and for any sheep, a healthy change of food.

Those who wish to have their wool in fine order, and in such a state as to command the highest prices in the market, will pay particular attention, not only to their sheep having an adequate supply of food, but to the manner in which it is fed to them. Manufacturers dislike to have the wool they use filled with grass and other seeds, and from the additional labor such wool requires, usually compel the grower to submit to a deduction of some cents per pound. When hay is thrown from a rack, or a cow-house where sheep are present, unless some care is used, this result usually follows, as the sheep are certain to collect under the falling hay, and their wool receives and retains most of the seeds scattered at such times. So too when led from the common elevated rack, their wool will be injured by the retention of seeds dropped on their necks and backs in drawing out their hay.

To avoid this evil and loss, racks should be used, the sides of which are perpendicular, and which are so low that the sheep in getting his food need not fill his eyes and wool with dust and seed. Several plans for very good racks have been presented in former volumes of the Farmer; and no one can fail of constructing good ones, if he only avoids the errors of making them overhanging, and setting them too high. [See Farmers' Cabinet, No. 7, page 107.] No animal whatever should be fed with hay without racks, though there are few in which the benefit is so decided and apparent, as in feeding sheep. Where a number of sheep are kept together, and the hay for them is scattered over the ground in the usual manner, the whole flock will dog the heels of the feeder, and by the time he has been the rounds, the hay is so dirtied and trampled upon, that a large part of it is refused by the sheep and lost.

Some farmers maintain that drink or shel-

ter is unnecessary, or that they are on the whole disadvantageous for sheep. This must be a mistake, for on such matters the decisions of instinct may much more safely be relied upon, than the mere opinion of any observer; and it is well known that sheep will always use drink, or will seek a shelter if one can be had, during high winds or severe storms. It is contrary to the order of nature that any animal should suffer injury from being kept comfortable. If the place of shelter is too small or ill ventilated, sheep are injured by being crowded into such confined limits; but it is the height of absurdity to suppose that the health of a sheep, and consequently the quality of the wool will not be better, where care and comfort are attended to, than where both are neglected.—*Genesee Farmer.*

For the Farmers' Cabinet.

Green Vegetable Manure.

An article in the Farmers' Cabinet of January the 1st, states that green vegetable substances may be "rendered of immense value to the farmer by their conversion into manure."

The process is effected by mixing quick lime with weeds or green rubbish of any kind, which immediately heats and decomposes the whole mass. The ashes and lime are then spread upon the land, and is represented to have an immediate and powerful effect upon its produce.

I have no doubt of this fact, in a limited sense; the effect of ashes upon the produce of land is well known to farmers generally; but the economy of reducing green vegetable matter into ashes, for the purpose of manure, is not so evident. The quantity of manure is so reduced by the operation of burning, that we have generally considered it a waste to consume vegetable matter for the purpose of obtaining ashes; and statements which are expected to change this opinion ought to be very minute and particular in detail. The article referred to states that the clover mowed from an acre of land would, when burned, manure four acres; but we are not told how it would manure it; we know nothing of the amount of manure, nor the produce of the land; if we knew the number of bushels of ashes, or the produce of the four acres compared with that of the previous season, we could form some opinion as to the advantage of the operation. Experience has so far told us that a great degree of heat destroys the quality of vegetable manure, and that no residum left after the operation of fire is equal to the same materials reduced to a soluble state by putrefaction. Horse manure thrown into a dry place will heat and waste its substance so as to be comparatively useless; but if spread under sheds where cattle feed, they will tramp upon it and keep it moist enough to encourage gradual decomposition without injury by overheating. The clearing up of fences and other neglected places, from all kinds of green rubbish, and depositing it in the hog pens, with occasionally a load of dirt spread over the whole, increases the quantity of the best kind of manure, and would, I presume, be more profitable than to convert the materials into ashes. Plaster of Paris spread upon corn stalks and the long litter of the barn-yard, in order to hasten the decomposition, has every appearance of producing the desired effect; but lime, from its caustic qualities, is supposed to be injurious to composts of every description.

A Subscriber.

Wilmington, 1st mo. 10th, 1837.

[In the article referred to we simply gave the facts as they were related to us, with the hope that some of our readers would make the experiment and communicate the result. "A Subscriber" will please accept our thanks for his attention, with an assurance that future communications will be duly acknowledged.]

Farming.

BY DR. E. HOLMES.

This is certainly the most healthy and pleasant employment we can pursue. The great variety of exercise in the open air which it affords, give a healthy turn to the functions, and adds much to the vigor and strength of the body to which we are in a great degree indebted for all the enjoyments of life. If wealth be the object of our pursuit, this is the surest way of accumulating it. The riches of the farmer gradually, but permanently increase. Look at those who for the last ten years have done nothing but attend to the business of their farms, and have been industrious and prudent. Have they not increased in property? Are not their buildings and fences in better condition? Have not their flocks and herds increased? Have they not either purchased more land or have money to let? There is certainly not *more* than one to ten of the persons who for the last thirty years have done nothing but farming, but that has a competence, and is comfortably situated in life; while on the other hand ten to one of those, who for the same period have been engaged in speculation and trade, have been or now are *Bankrupts.*

If honor be the point to which your course is directed, engage in agricultural pursuits, for what will be a greater elevation than to be connected among that class of citizens which are universally acknowledged to be as a body, the most respectable in our country

No condition which a man can acquire to himself is above that in which the virtuous will acknowledge him to be an honest man and a good farmer.

If the cultivation of the intellect and intellectual enjoyment be the object, the pursuits of agriculture afford an ample field to display the taste and gratify the wishes.—The pleasure of pursuing this occupation when compared with that of others, suffers nothing by comparison. Man is said to be a microcosm or miniature world, and I will add, naturally in a rude and unsubdued state.—His natural dispositions and propensities answer to the forest before the ingenious hand of the cultivator has been displayed in subjugating it to use. The reflecting man can form a striking analogy between his own internal condition, and the employment in which he is engaged, from the hardy and rugged business of felling trees and clearing up the forest, even to the most delicate employment of cultivating the flower garden.

This may be rendered more plain by drawing a few among the innumerable comparisons which may justly be adduced. The felling of trees and clearing up the ground, answers to the first work of subduing the natural mind by putting off the rude and unseemly manners, of which by nature we are possessed, and which are refined by instruction and improvement almost from infancy. The planting of fruit, and other useful trees, answer to the adoption and cultivation of those more refined manners and habits of usefulness which in after life will produce us a rich yield of the fruit of agreeable associations and pleasant intercourse with the world. Ploughing and working the ground, corresponds to improving the mind by education.—Planting and raising crops which support the body, corresponds to the study of the sciences which strengthen and prepare the mind for the reception of truths of a higher order, which will elevate it towards that source of perfection which is light and life itself. Hoeing up and destroying the weeds which grow up among our crops, and will, if unsubdued, choke and destroy them, corresponds to the suppressing those bad tempers to sensual passions which are continually springing up in our minds, and if unchecked will destroy every thing good that has been there implanted. Building fence to secure our fields from the intrusion of bad and mischievous animals, which would destroy the products of our labor, corresponds to storing the mind with divine truths, which are the only protection against the invasion of infidel principles, which, if once they get in, will destroy every principle of truth in the understanding. To follow up these comparisons to every portion of agricultural employment, and trace them through their minute bearing, affords a great deal of pleasure to one possessed of a mind which delights in such reflections.—Thus while the hands are at work in the field, the mind can be employed in the great field of nature, "and look through Nature up to Nature's God."

More Economies.

How to save oil and candles.—Use sunlight two hours in the morning, and dispense with candles and lamps two hours after nine, P. M. The morning sunlight is much cheaper and better than evening lamp light.

How to save expense in clothing.—Purchase that which is at once decent, and the most durable; and wear your garment despite the frequent changes of fashion, till it becomes too defaced to appear decent; then turn it and wear it henceforth as long as it protects the body. A blue coat is as warm after fashion requires a green one, as it ever was. A red shawl in fashion to-day, is as comfortable as a black one which fashion requires to-morrow. A few years hence your fame will not depend upon the style, color, or quality of the broadcloth you wear in 1837.

How to save time.—Have a place for every thing, and when you have done using it, return it to its place. This will save much time in hunting after articles which are thrown carelessly aside and lie you know not where.

How to save expense in traveling.—Cultivate the bump of inhabitiveness; and if you want to go a mile or two, walk rather than hire an establishment at the livery stable.—This will be for the health of your body as well as a security of your purse from languishment.

How to save in little matters.—Procure a book and keep an exact account of all your expenditures. At the expiration of three months, review the account and see how much you have expended in four penny and nine penny items which you could have done without as well as not. Then see to it that each ensuing quarter shall be minus just those things. In many cases the aggregate would be found more considerable than you would be aware of, unless you kept such an account.

How to save your property, if your house should be consumed by fire.—Get insured.—No one is entitled to much charity after he suffers loss, if he neglects so easy a method of securing himself.

Strong Butter.

We wish our dairy women would learn one thing, viz: to work out all the butter-milk from the butter they make, and prepare it in such a manner that it will keep sweet during the year. And we wish our butter merchants would learn *two* things, viz: how to lay butter down in such a manner that it shall not become strong or rancid—and to discriminate between *good* butter and *poor* butter, and pay a price accordingly.

We feel rather *sour-croutish* on this subject, having had our throats *rancified* for a long time with what was once butter, till our very disposition begins to grow rather unsavory. The very milk of our human kindness begins to curdle, and we make anathemas against careless dairy women and the indiscriminating buyer and vender of half churned, half worked, and ought to be half priced article, called, in common language, through pure courtesy—butter.

The art of making good butter is exceedingly simple, and may be reduced to a few rules. In the first place keep every utensil clean and sweet. Then be careful to churn the cream before it is too old. Churn it well, till the butter-milk is separated from the butter.—Work out all the butter-milk and then salt with good Turk Island or rock salt. We dislike Liverpool salt. It is not so pure as the other kind. It contains Glauber salt, Sulphate of magnesia, muriate of lime, and other impurities, with now and then a gravel stone to sharpen your teeth.

Mode of Sticking Peas.

The following mode of sticking peas, and especially the taller varieties, is both cheap and simple, and possesses many advantages. Procure a number of strong thick stakes or thin poles, in length according to the height of the peas, from five to ten feet, and drive them into the ground on each side of the row, at the distance of three or four yards; pass a small line along the poles, taking a turn on each within a few inches of the ground, and as the peas advance raise the next turn a little higher, and so on in succession, till they have attained their full height. Sow the tendrils of the peas, and trus them round these lines, by which they will be supported in a better manner than by the common method of sticking. When spread regularly along the lines, they have a fine circulation of air, and pods can be pulled at all times without injuring the haulm, and as the birds have no twigs to alight upon, the portion of the crop which they otherwise would devour and destroy, is saved. An excellent way to preserve peas and beans from mice, is to chop up the tops of the last year's shoots of furze, and sow them in drills: the author has known it to be an effectual remedy in several instances, where these mischievous little animals had been very prevalent.—*Vegetable Cultivator by John Rogers.*

Comparative Weight and Value of different kinds of Wood.

The first column, after the names, gives the weight of seasoned wood; the second, the number of bushels of charcoal to the cord, and the third, the comparative value. A cord of green wood it is estimated, contains 1443 lbs. of water.

	Lbs. in a cord.	Bush. C. Coal.	Comp. val.
Shelbark Hickory	4469	100	$7 40
Pig nut Hickory	4241	95	7 08
White oak	3821	81	6 00
White ash	3450	77	5 70
Swamp Whortleberry,	3361	73	5 40
Scrub Oak	3339	73	5 40
Apple tree	3115	70	5 18
Red Oak	3254	69	5 11
Black "	3102	66	4 89
White Beech	3236	65	4 81
Black Birch	3115	63	4 67
Yellow Oak	2919	60	4 44
White Elm	2592	58	4 29
Maple	2668	54	4 00
Button Wood	2391	52	3 85
Spanish Oak	2449	52	3 85
White Birch	2369	48	3 56
Pitch Pine	1904	43	3 18
White "	1868	42	3 11
Lombardy Poplar	1774	40	2 69

State of the Markets.

Jan. 28, 1837.

Beans, white, per bushel,	$1 80 a 2 00
Beef, mess, new, per barrel,	14 00 a 14 50
Bacon, western, per lb.,	11 a 13
Butter, extra, per tub,	18 a 19
——, fresh, per lb., (market,)	25 a 37
Hams, per lb.,	13 a 14
Hog's lard, per lb.,	no sales.
Cheese, American, per lb.,	10 a 11
Beeswax, yellow, per lb.,	26 a 27
——, white,	37 a 39
Bristles, American,	40 a 65
Flax, American,	9 a 10
Flour, best, per bbl.,	11 00 a 11 25
Grain.—Wheat per bushel, Penna.,	2 10 a 2 42
do. Maryland,	2 05 a 2 25
Rye, per bushel,	no sales.
Corn, do.,	80 a 94
Oats, do.,	53 a 55
Barley, do. Penna.,	83 a 90
Peas, do.,	no sales.
Hay, Timothy, per 100 lbs.,	1 00 a 1 10
Meadow Grass,	90 a 95
Hemp, American dry rot, ton,	175 00
Hops, first sort, 1836, lb.,	0 a 11
Plaster Paris, per ton,	5 00 a 5 25
Seeds—Cloverseed, per bushel,	6 50 a 7 50
Flaxseed, rough, do.,	1 85 a 1 87
Timothy,	2 25 a 2 75
Tallow, per lb.,	11
Wool—Saxony, fleece, per lb.,	68 a 75
Merino,	60 a 67½
¼ and common,	40 a 44